Amendments to the Specification:

Please replace paragraph [0003] with the following amended paragraph:

[0003] The semiconductor industry is ~~but one that is~~ very dependent upon sources of ultrahigh purity reagents. Other industries also have high purity requirements, but few compare with the purity requirements in the semiconductor industry. Liquid vapor delivery systems are used in a number of manufacturing processes. For example, liquid vapor delivery systems are used in the manufacture of optical wave-guides. Such systems are described in U.S. Patent Nos. 3,826,560; 4,235,829; and 4,276,243, the disclosures of which are incorporated herein by reference. Thin films are sometimes produced by liquid vapor delivery system technology, see HANDBOOK OF THIN FILM TECHNOLOGY, Maissel and Glang, McGraw-Hill, New York, 1970. Film deposition techniques are generally described, as applicable to the semiconductor industry, in ENCYCLOPEDIA OF SEMICONDUCTOR TECHNOLOGY, Grayson (Ed) John Wiley, New York, 1984.

Please replace paragraph [0013] with the following amended paragraph:

[0013] The foregoing problems have been overcome by the method and system of the present invention. In accordance with the present invention, a method and system is described for controlling the delivery of vapor from a bubbler containing a supply of chemical fluid or reagent through which a carrier gas is bubbled and from which bubbler vapors are delivered in a vapor stream entrained with the carrier gas. In general, the present invention involves adjusting the pressure within the headspace of the bubbler to that of the chemical fluid level line, thus creating a repeatable fluid level based on pressure[[,]] <u>and</u> fluid dynamics[[,]] and not relying on conventional level sensors and controllers.

Please replace paragraph [0020] with the following amended paragraph:

[0020] The liquid vapor delivery system 10 according to the present invention is best seen in Figure 1. The liquid vapor delivery system 10 is designed to provide a vapor stream of an easily vaporizable liquid or reagent 38 which is contained in a reservoir 94 and in a bubbler 12. In general, the present invention involves adjusting the pressure within the headspace of bubbler 12 to that of the chemical fluid level line [[38]] 37, thus creating a repeatable fluid level based on pressure[[,]] and fluid dynamics[[,]] and not relying on conventional level sensors and controllers. This is accomplished in two stages. During the first stage, all inlets and outlets of the bubbler [[14,]] 12 are set in a closed position except valves 102, 104 and 106. To begin the refill cycle, valves 120 and 110 are then opened to initiate the flow of liquid 38 from liquid source 94 to the bubbler 12. The system, during the refill cycle, allows over-filling of the liquid level 38 in bubbler 12 to a level controlled by the pressure of the liquid delivery conduit 19, thereby compressing the volume of vapor in bubbler 12 and creating a pressure approximating the liquid source line [[12]] 19. Construction and placement of vapor extraction tube 28 prevents liquid from being forced into it. During the second stage, valve 110 is closed, pressure supply is removed from the liquid source 94, and valve 124 is opened forcing excess liquid through liquid level set tube 37 back to bulk liquid source 94.

Please replace paragraph [0021] with the following amended paragraph:

[0021] Liquid delivery system 10 can be essentially viewed as having two major components, bubbler 12 and conduits system 90. When compared to traditional bubblers, bubbler 12 constitutes an upside down design[[,]] in that all of the gas and liquid conduits that communicate with bubbler 12 are attached to bubbler floor 14. This design arrangement of bubbler 12 led to an unexpected capability of cleaning bubbler 12 in-situ. Bubbler floor 14 is designed so that the lowest point occurs at opening 21 which is attached to liquid source line or conduit 19. Thus, bubbler 12

can be readily cleaned in-situ without removing, disassembly, or contamination to the atmosphere. Cleaning is simply accomplished by closing all valves except valves 110, 128 and 130. Vacuum generator 136 is activated and reagent 38 is withdrawn through vent 152. Alternatively valve 132 may be opened to withdraw reagent 38. Valves 128 and 130 are then closed and a cleaning solvent (not shown) can be attached to conduit 19, in place of reservoir 94, and cleaning solvent may then be introduced into bubbler 12. Once cleaned, the cleaning solvent is then withdrawn from bubbler 12 as discussed previously in the case of reagent 38. Conduit system 90 essentially comprises a liquid source line 19, vapor stream conduit 26, level set line 37 and carrier gas conduit 92 all of which allow for fluid communication between bubbler 12 and carrier gas source 98, liquid reagent source reservoir 94 and a vacuum system that comprises a vacuum generator 136, purge gas supply 96, vacuum generator supply 100 and vent 152. It will be readily apparent to one of skill in the art that conduit system 90 would take on many permutations by simply changing the configuration of the valves consequently Figure 1 is exemplary of one configuration that will accomplish the methods of the present invention.

Please replace paragraph [0025] with the following amended paragraph:

[0025] As carrier gas 98 travels up through reagent 38, it becomes either saturated, or partially saturated, depending upon the rate of flow, the depth of reagent 38, the temperature, etc., with reagent 38. Reagent-ladened gas 40 then flows into headspace 30 and [[our]] <u>out</u> vapor stream conduit 26, which is connected to process tool 154. Vapor stream conduit 26 is u-shaped so that as gas bubbles 40 break the surface 36 of reagent 38 splattered fluids will not drop down into inlet tube 26. There may be provided, in addition to this gas flow, other streams. For example, other streams of inert gas, or reactive gas, or reagents, may also be provided. These are not part of this invention, however, and would be provided separately and independently of this invention, depending upon the precise reaction

that was desired to be carried out.

Please replace paragraph [0026] with the following amended paragraph:

[0026] The system, as thus described, may be considered the equilibrium system. During the period of time process tool 154 is in a deposition mode, the reagent-laden gas 40 is being provided to processing tool 154, and the fluid level 36 is decreasing an extremely small percentage of total bubbler volume. Consequently, after each run the refill cycle is activated. As discussed previously all inlets and outlets of bubbler 12, as shown in Figure 1, are switched into a closed position except valves 102, 104 and 106. To begin the refill cycle, valves 120 and 110 are then opened to initiate the flow of reagent 38 from reservoir 94 to bubbler 12. Alternatively, valves 120 and 122 or 124 may be opened to fill bubbler 12. The system, during refill cycle, allows over-filling of the liquid level in bubbler 12 to a level controlled by the pressure of the liquid delivery conduit 19, thereby compressing the volume of vapor in the bubbler and creating a pressure approximating the liquid source line 19. Construction and placement of vapor extraction tube 28 prevents liquid from being forced into it. During the second stage, valve 110 is closed, pressure supply is removed from reservoir 94, and valve 124 is opened forcing excess liquid within bubbler [[23]] 12 out through fluid level set line 37 back to bulk liquid source 94. The length of the refill cycle is thus dependent on the total bubbler volume. During filling sequence, [[head]] pressure in the head space 30 is dependent upon the pressure of conduit 19, reagent 38 will automatically flow from reservoir 94 into bubbler 12 until the pressure in head space 30 equilibrates with that of conduit 19. Thus the level of reagent 38 in bubbler 12 is replenished to an overfilled state, in preparation for the leveling sequence described earlier.